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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,955	01/10/2001	William K. Leonard	55476USA2A.002	9409

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EXAMINER

FLETCHER III, WILLIAM P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/757,955

Applicant(s)

LEONARD ET AL.

Examiner

William P. Fletcher III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) 63-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-11, 17, 23-30, 32-41, 43, 44, 49-57 and 59-62 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 12-16, 18-22, 31, 42, 45 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-7, 9, 10. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 62, drawn to a method for improving the uniformity of a wet coating on a substrate, classified in class 427, subclass 359.
 - II. Claims 63 – 80, drawn to an improvement station/apparatus for improving the uniformity of a wet coating on a substrate, classified in class 118, subclass 110.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus of Group II can be used to practice another and materially different method: a method in which the pick-and-place devices serve to form an un-even coating of varying thickness, by re-contacting the surface at a second position that is periodically related to a first position with respect to its distance from the first position.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Brian E. Szymanski (Reg. No. 39,523) on 08/07/02, a provisional election was made *with* traverse to prosecute the invention of Group I, claims 1 – 62. Affirmation of this election must be made by applicant in replying to this Office

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action. Claims 63 – 80 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

6. The drawings are objected to because the axes in the graphs do not have units associated with them. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: at p. 26, l. 30, “sine” should, apparently, read “sign.”

Appropriate correction is required.

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: METHOD FOR IMPROVING THE UNIFORMITY OF A WET COATING ON A SUBSTRATE USING PICK-AND-PLACE DEVICES.

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the

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following is required: the subject matter of claims 13 – 17 lacks proper antecedent basis in the specification. While pp. 27 – 28 discloses a speed differential between the pick-and-place devices and the substrate, there is no disclosure of the specific variations (i.e., sinusoidal, out-of-phase, etc.) recited in claims 13 – 17.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claims 46 – 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 46 recites the fraction m/d where $d < 41$. This fraction is inclusive of undefined fractional roll sizes since $d < 41$ includes 0. Further, this fraction is inclusive of negative fractional roll sizes since $d < 41$ is inclusive of values of $d < 0$. It is unclear from the disclosure whether fractional roll sizes can be negative.

Similarly, claims 47 and 48 recite values of the denominators t and v as between -20 and 20 . This range is inclusive of 0 and, consequently, claims 47 and 48 are inclusive of undefined numerical values.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 2, 5, 10, 11, 17, 23, 24, 26 – 29, 32 – 33, 37, 38, 49, 55 – 57, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Reade et al. (US 4,102,301 A).

With respect to claims 1, 2, 17, and 23, Reade teaches a method for forming a uniformly-coated web comprising contacting the coating, at a first position, with rollers that pick up excess coating material, transfer the picked-up coating around their periphery, and re-contact the coating on the substrate at a second position that is different from the first [c. 1, ll. 60 – 65; c. 2, ll. 9 – 22; c. 2, l. 62 – c. 4, l. 20]. Since the rotational speeds of the rollers are different [c. 4, ll. 1 – 20], it is the examiner's position that the re-contacting positions are not periodically related.

With respect to claim 5, the substrate is a moving web and the rolls rotate with the web [c. 3, l. 11 – c. 4, l. 20]. Please note that the examiner has *not* interpreted the term “with” as conveying any direction of rotation (i.e. co-rotation or contra-rotation). Since applicant has not defined this term, the examiner has accorded it the broadest reasonable interpretation within the context of the disclosure: “a function word to indicate a participant in an action, transaction, or arrangement <works ~ his father>.”¹ Therefore, insofar as the limitation “rotate with the belt or web” indicates that the rollers and the web or belt participate in action, transaction, or arrangement, Reade's teaching of rollers moving as the web passes beneath anticipates this limitation.

With respect to claims 10 and 11, Reade teaches that there is a speed differential between the rollers and the substrate [c. 4, ll. 1 – 20].

¹ *Merriam-Webster's Collegiate Dictionary, 10th Ed.*, © 1998 by Merriam-Webster, Inc., p. 1359, copy of this page attached.

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With respect to claims 24, 26, 27, 29, and 49, Reade teaches applying the coating in stripes or strands, spaced-apart on an initially dry, un-coated substrate [c. 2, ll. 42 – 61; Fig. 1]. The un-coated spaces between the stripes or strands read on voids or discontinuities.

With respect to claim 28, Reade teaches that the coating may be applied to both sides of the substrate and the coating method may be repeated to build-up a desired coating thickness [c. 3, ll. 2 – 5 and c. 3, ll. 49 – 51].

With respect to claim 32, Reade teaches that the substrate comprises a moving web 11 having a direction of motion indicated by the arrow in Fig. 1.

With respect to claims 37 and 38, Reade teaches that the coating is applied from the several nozzles 5 arranged perpendicularly to the direction of motion [see Fig. 1]. It is the examiner's position that, at least in the sense that the nozzle size and pump pressure necessarily determine the amount of coating dispensed on the substrate, the average coating thickness is, inherently, pre-metered.

With respect to claims 51 and 52, insofar as the action of the coating rollers expose a greater surface area of the coating to contact with the air, the method of Reade inherently increases the drying rate of the coating.

With respect to claims 55 – 57, as noted above, insofar as the spaces between the strips or strands read on voids, these voids are eliminated by the roller treatment of Reade, giving a reduction of 100%.

With respect to claim 59, the final coating thickness of Reade is between 2.5 and 3.8 microns [c. 4, ll. 6 – 10].

Claim Rejections - 35 USC § 103

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14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. **Claim 25 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Reade et al. (US 4,102,301 A).**

The teaching of Reade with respect to claim 23 is detailed above. The reference does not, explicitly state that the coating composition is “sprayed” onto the substrate. The reference does, however, teach that the coating composition is forced, by means of pressure, through nozzles 5 [c. 1, ll. 26 – 39 and c. 2, ll. 43 – 61]. It is the examiner’s position that, absent evidence to the contrary, this reads on spraying. If, in the alternative, this does not read on spraying, it would have been obvious to modify the method of Reade to spray-apply the coating as it is a well-known means in the art of applying a coating to a substrate.

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17. Claims 30, 33 – 36, 39 – 41, 43, 44, 50, 53, 54, and 60 – 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reade et al. (US 4,102,031 A).

The teaching of Reade is detailed above. Although Reade teaches a specific method of application, the rollers serve to spread- and even-out the applied coating. It is clear, therefore, that the rollers could advantageously be used with a coating applied in any pattern, including those recited by applicant in these claims. Further, with respect to claims 39 – 41, 43, and 44, transfer of a coating material from a transfer roller or web is a known means of applying a coating to a moving web and it would have been obvious to modify the method of Reade to do so.

With respect to claims 53 and 54, the coating of Reade inherently has an initial maximum and minimum caliper and the method of Reade. This value is a result-effective variable effecting the coating thickness of the dry coating. Absent a showing of unexpected results demonstrating the criticality of the claimed range, it would have been obvious to one of ordinary skill in the art to optimize the initial and final calipers by routine experimentation [see MPEP § 2144.05(II)].

With respect to claims 60 – 62, as noted above, Reade teaches a final coating thickness of between about 2.5 and 3.8 microns. It is clear, however, that this value may be adjusted and optimized by the amount of coating material, for instance. Absent a showing of unexpected results demonstrating the criticality of the values, it would have been obvious to one of ordinary skill in the art to optimize the final thickness by routine experimentation [see MPEP § 2144.05(II)].

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18. Claims 3, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reade et al. (US 4,102,301 A) as applied to claim 1 above, and further in view of Hall (GB 1,278,099).

The teaching of Reade is detailed above. Read teaches that two rollers provide a more uniform coating than one alone [c. 3, ll. 46 – 47], but does not explicitly mention the use of more than two rollers.

Hall teaches a process similar to that of Reade in which at least five, but a minimum of at least two, rollers are utilized [p. 1, ll. 41 – 46 and p. 1, ll. 57 – 60, for example].

Based on the suggestion of Reade that a greater number of rollers results in a coating of improved uniformity, and the teaching of between at least two and at least five rollers, it would have been obvious to one of ordinary skill in the art to modify the method of Reade so as to use three, four, five, or more rollers to yield a coating of the desired uniformity.

19. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reade et al. (US 4,102,301 A) in view of Hall (GB 1,278,099) as applied to claim 3 above, and further in view of Mayer (1,043,021 A).

The teaching of Reade in view of Hall is detailed above. While Reade teaches different rotational speeds, the reference does not, explicitly state that the rollers have different diameters.

Mayer teaches that rollers of different diameters will rotate at different speeds [p. 6, ll. 44 – 48].

It would have been obvious to one of ordinary skill in the art to modify the method of Reade so as to achieve the different roller speeds by using rollers of different diameters, as suggested by Mayer.

Allowable Subject Matter

20. Claims 46 – 48 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

21. Claims 6, 7, 12 – 16, 18 – 22, 31, 42, 45, and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 6 and 7, Reade teaches that the rollers are contra-rotating. Although not explicitly stated, the rollers must be driven to do this, otherwise they would *co*-rotate with the web. Consequently, the prior art neither teaches nor suggests un-driven rollers.

With respect to claims 12 – 16, Reade teaches that the speed differential between the substrate and the rollers is constant (i.e., does not change with time during the method and so does not have a period). Consequently, the prior art neither teaches nor suggests a periodic speed differential.

With respect to claims 18 – 22, as above, Reade does not teach changing speed during the method.

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With respect to claim 31, while Leonard et al. (US 5,409,732 A) teaches a caliper sensing device, there is no suggestion to combine such a device to meter the application of coating material.

With respect to claims 42 and 45 – 48, the prior art neither teaches nor reasonably suggests the limitations of this claim.

With respect to claim 58, the rollers of Reade are *smoothing* rollers. As such, there is no teaching or suggestion that they be modified to be textured, as doing so would not result in a smooth coating.

Conclusion

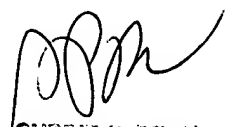
Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (703) 308-7956. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

WPF 10/08/03

William P. Fletcher III
Examiner
Art Unit 1762


SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Non-final Rejection